ABSTRACT

The present invention discloses novel phosphoramidite reagents for use in oligonucleotide synthesis. The present invention further discloses novel methods for the conversion of terminal hydroxyl groups of oligonucleotides into phosphate monoesters. By employing novel reagents, as also disclosed herein, the methods are fully compatible with standard procedures for solid phase oligonucleotide synthesis and do not require additional processing steps. The inventive reagents to phosphorylate terminal hydroxyl groups of oligonucleotides are superior to the prior art in that they for the first time combine the desired attributes of being a solid compound for facile handling, comprising two β-eliminating protective groups removable as fast or faster than the standard cyanoethyl group, providing a DMT-group for easy monitoring of the coupling efficiency, and enabling a fast final deprotection of the phosphorylated oligonucleotide without any extra manipulation steps.

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